Final Project Report – “Find Your Wine” Dashboard

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Project Overview

This dashboard was created using R and the Shiny framework, with the goal of helping users explore and filter a large dataset of wines. The main motivation was to make the wine data more accessible and interactive, especially for users who might not be familiar with data analysis but are curious about wine characteristics.

Structure and Features

The app is built using the shinydashboard package and is structured with two main tabs:

1. Wine Explorer

- **Filters:** Users can select by region, country, grape type, wine type, vintage, style, capacity, ABV, and price range.
- **Outputs:**
  - A bar chart showing the distribution of wine types.
  - A pie chart of the top 5 grape varieties.
  - A table of all matching wines.
  - A dynamically generated wine recommendation, based on the filtered data.

This section is designed like a guided search engine, allowing the user to narrow down their preferences and find their ideal wine.

2. Analysis Tab

- This part goes deeper into the dataset with pre-coded analytical questions:
  - Most expensive grape types (top 5)
  - Most expensive wine regions
  - Relationship between vintage and price (scatter plot with regression line)
  - Whether closure type (e.g., cork or screw cap) affects price (boxplot)
  - The most common grape variety overall

The goal of this tab is to give users (and myself) a deeper understanding of the structure and trends within the dataset.

Design and Theming

The theme is inspired by wine itself — I used shades of red, burgundy, and rose to create a warm, elegant feel. The styling is consistent across all plots, and a soft pink background gives it a more personalized visual identity.

Technical Notes

- The dataset was pre-cleaned and saved as an `.RData` file (`WineDataset_Cleaned.RData`).
- The app uses reactive filtering to update charts and recommendations.
- All visualizations were built with `ggplot2`, and some styling was added via inline CSS.
- The app was tested locally and runs smoothly.

Reflections

I really enjoyed building this project — not only did it teach me how to combine data filtering and visualization in real time, but it also pushed me to think about **user experience** and **design**. Creating the recommendation logic was especially fun.

If I had more time, I would've added:

- Search functionality in the wine table
- A user rating/review system
- Export to PDF or email a wine pick